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Appl. No. 10/507,112

May 14, 2007

AMENDMENTS TO THE DRAWINGS

Please add the attached new sheet of drawing for new Figures 2 and 3.

Attachment: New Sheet(s)

REMARKS/ARGUMENTS

Further consideration of this application is respectfully requested.

In response to the Examiner's drawings objection (because they fail to show the optimization process as described in the specification), new Figures 2 and 3 have now been added. New Figure 2 is based upon the implementation disclosure found, for example, at page 18 of the original specification explaining how a conventional computer system can be programmed so as to use applicant's novel fitness vectors in a combinatorial multimodel optimization process. New Figure 3 (and related text now added to page 18 of the specification) is based on original apparatus claim 23.

Since the basic problem of allocating plural tasks to multiple devices operating in parallel (e.g., a plurality of computer program tasks that must all be finished before the computer program execution is finished – some of which can be accomplished in parallel) is itself fairly straightforward in principal. Since such systems are already well known in the art, not much description of the system being controlled and/or the general purpose computing hardware used for implementing the optimization algorithm should be required (e.g., since the specification of a US patent application is directed towards the population of those already skilled in the relevant art).

As amended to date, Figure 1 explicitly shows the optimization process described in the specification at pages 7-8 and Figures 2 and 3 show the optimization process/system as described at page 18 of the specification (now including the substance

of original apparatus claim 23 as well). Accordingly, it is believed that all structural detail essential for a proper understanding of the disclosed invention is already shown in a drawing. Certainly the level of disclosure in the drawings now present in this application is consistent with the normal or "typical" level of detail found in most US patent drawings for inventions of this nature.

The rejection of claims 1-21 and 23 under 35 U.S.C. §101 is respectfully traversed.

The Examiner asserts that the presently pending claims do not provide a sufficiently tangible result with practical application (e.g., where the final result achieves or produces a useful, concrete and tangible result). With respect to each of claims 1, 14, 21 and 23, the sole reason given by the Examiner to support this allegation is "because the specification fails to show that the optimization allocation tasks are implemented by a practical application process or device".

However, the specification specifically and explicitly notes that the invention finds particular application in the fields of load balancing (e.g., processor and network load balancing), scheduling optimization (including production scheduling, resource assignments, time table scheduling) and resource planning. [1:6-9] At pages 2-4, the specification explicitly describes an optimization problem presented by eleven computer program tasks to be performed in a computer system having five parallel processors, each processor being capable of handling tasks up to a job size of "9" (i.e., including any combination of smaller jobs having a total aggregate size of no more than 9). An optimal

solution with the fitness value of 5 and a fitness vector (1, 1, 1, 1, 1). A less than optimal solution is presented starting at page 3, line 23. A scheduling problem application is discussed at page 8. The optimal distribution of eleven parcels of work between five parallel computer program processors is again discussed in even more detail at page 9. Scheduling of jobs on a multi-product batch processing machine is described at pages 9-12. Other examples are specifically discussed at pages 12-17 – albeit the discussion may be at a more generic higher level having application generally to many different applications. All of these teachings of the specification teach practical applications having a final result that is useful, concrete and tangible. Furthermore, exemplary implementation details are provided, *inter alia*, at page 18 – including a multi-processor system where the specification shows “that the allocation tasks are implemented by a practical application process or device”. Accordingly, the sole basis for the Examiner’s rejection of claims under 35 U.S.C. §101 is believed to be clearly erroneous and withdrawal of same is respectfully requested.

In response to applicant’s earlier arguments, the Examiner has found them not persuasive because allegedly “there is no indication neither [in] the specification nor in the drawing that the optimization process is presented to be used for a practical application purpose(s)”. However, as noted above, there is (especially as above amended) clear teaching in the specification and the drawing that the applicant’s claimed optimization process is presented to be used for practical application purposes (e.g., the allocation of multi-computer program tasks to parallel computer program processors).

The Examiner's attention is also drawn to new claim 24 which recites a method of operating a multi-processor computer system to execute a computer program including a set of multiple separate tasks which must all be completed in order for the program execution to be complete. The method is recited as including the distribution of multiple of the set of program tasks between multiple computer program processor devices so as to efficiently accomplish all such distributed tasks. The distribution of tasks is accomplished in accordance with the method generally recited already in the body of independent claim 1 and now here made somewhat more specific for this particular application.

New apparatus claim 25 is similar to new method claim 24.

Both new claims 24 and 25 are believed to be well within the ambit of statutory subject matter under 35 U.S.C. §101.

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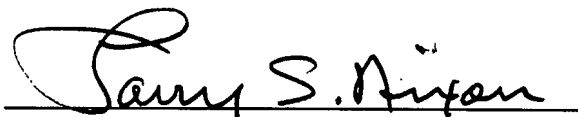
May 14, 2007

Accordingly, this entire application is now believed to be in allowable form and a formal Notice to that effect is respectfully solicited.

Respectfully submitted,

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